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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,289	03/31/2000	Mitsuhiro Agehari	P/2041-47	9847

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EXAMINER

TRAN, KHANH C

ART UNIT PAPER NUMBER

2631

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s) AK	
	09/540,289	AGEHARI, MITSUHIRO	
	Examiner	Art Unit	
	Khanh Tran	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Request For Continued Examination (RCE) filed on 11/29/2004 has been entered. Claims 1-4 are pending in this Office action.

Response to Arguments

2. Applicant's arguments, see pages 5-7 of the Remarks / Argument, filed on 09/16/2004, with respect to the rejection(s) of claim(s) 1-2 and 4 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Spilker, Jr. et al. U.S. Patent 5,815,046.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spilker, Jr. et al. U.S. Patent 5,815,046.

Regarding claim 1, Spilker, Jr. et al. discloses in the FIGURE a tunable digital modulated integrated circuit. Serial/parallel and modulator and

modulator/coder processor 10 receives serial data and a clock. The data are converted by the serial/parallel converter to words of appropriate size that match the modulation. The bits are then scrambled in typical manner, interleaved, and coded using Reed Solomon coding algorithm, and fed to the BPSK, QPSK, or QAM digital processor; see column 2, lines 9-21.

By using various modulation schemes, the tunable digital modulated integrated circuit corresponds to the claimed multirate transmission apparatus. A single input clock is utilized for various modulation schemes, e.g. BPSK, QPSK, or QAM. Hence, the coding ratio is varied according to the selected modulation scheme as appreciated by one of ordinary skill in the art. Spilker, Jr. et al. does not expressly disclose an input modulation operation as claimed. However, as recited above, the coded bits are fed to the BPSK, QPSK, or QAM digital processor. Hence, the teachings clearly suggest that either BPSK, QPSK, or QAM is selected for the transmission modulation mode. In view of that, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the tunable digital modulated integrated circuit can be modified to have an input modulation mode as claimed in the instant application. The motivation is discussed above.

As recited above, the serial/parallel converter reads the serial input data and converts the data into words of appropriate size that match the modulation. In view of that, the serial/parallel converter corresponds to the claimed data processing means.

As also recited above, the parallel bits are then scrambled in typical manner, interleaved, and coded using Reed Solomon coding algorithm. Hence, the modulator/coder performs coding parallelly for the data read in by the serial/parallel converter. The modulator/coder corresponds to the claimed coding means.

The tunable digital modulated integrated circuit includes a transmission section comprising interpolation filters 14, up-converter including mixers 18, numerically controlled oscillator, D/A converters 22. Hence, the transmission section transmits the modulator output, for which coding process has been performed, in accordance with the selected modulation mode, and the varied coding ratio. The transmission section corresponds to the claimed transmission means.

Allowable Subject Matter

4. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hawley et al. U.S. 6,421,396 discloses "Variable Rate Modulator".

Kleider et al. U.S. Patent 6,084,919 discloses "Communication Unit Having Spectral Adaptability".

Yoshida U.S. Patent 4,721,928 discloses "Multilevel Modulator Capable Of Producing A Multilevel Quadrature Amplitude Modulated Signal".

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2631

KCT

Khánh công tran

01/07/2005

Examiner KHANH TRAN